

(10) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開平8-309262

(43) 公開日 平成8年(1996)11月26日

(51) Int. Cl.	識別記号	序内登録番号	P I	技術表示箇所
B 05 C 13/00			B 05 C 13/00	
A 63 B 45/00			A 63 B 45/00	2
B 05 B 15/00			B 05 B 15/00	
B 05 C 11/10			B 05 C 11/10	
G 01 B 11/02			G 01 B 11/02	H

特許図式 発明の要旨 請求項の概略 2 FD (全 4 頁)

(21) 出願番号 特願平7-140027

(71) 出願人 592014104

(22) 出願日 平成7年(1995)5月15日

(72) 発明者 山田 武彦

埼玉県川口市大野原20番地 ブリヂストン

スポーツ株式会社内

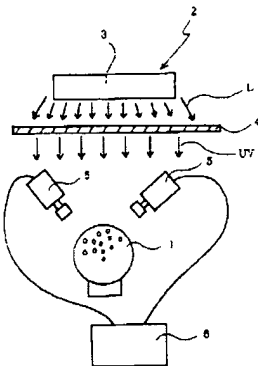
(74) 代理人 弁理士 小島 昌司

(34) 発明の名称 ゴルフボール塗膜の膜厚測定方法及び装置

(57) 【要約】

【構成】 紫外線光源を備えたクリアー塗料の塗膜が形成されたゴルフボールに対して紫外線を照射し、得られた2次元光線画像をCCDカメラで撮影すると共に、このカメラで取り込んだ画像を多値化処理して、上記塗膜の明暗画像を得、この明暗画像から膜厚を測定することを特徴とするゴルフボール塗膜の膜厚測定方法。

【効果】 本発明によれば、ゴルフボールのクリアー塗膜の膜厚を簡単、迅速に、しかも正確に計測し得、塗膜の厚のばらつきを容易に検出することができる。



DERWENT-ACC-NO: 1997-060249
DERWENT-WEEK: 199706
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TITLE: Film thickness measuring method for inspecting coating irregularity of golf ball - involves processing received image that contains light and dark areas using pair of CCD camera

PATENT-ASSIGNEE: BRIDGESTONE SPORTS KK[BRID]

PRIORITY-DATA: 1995JP-0140027 (May 15, 1995)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN
JP 08309262 A	November 26, 1996	N/A	004	B05C

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
JP08309262A	N/A	1995JP-0140027	May 15, 1995

INT-CL (IPC): A63B045/00; B05B015/00; B05C011/10; B05C013/00; G01B011/02

ABSTRACTED-PUB-NO: JP08309262A

BASIC-ABSTRACT: The method involves radiating UV beam (L) onto a golf ball (1) from an UV irradiation appts (2). The golf ball that is coated with a coating film, through an UV filter (4). The coating film is blended with a fluorescence whitening agent.

The radiated UV rays are reflected from the surface of golf ball. The reflected light beam is received by a pair of CCD camera (5) that processes the received image. The image of coating film has light and dark areas based on which thickness of coating film is measured.

ADVANTAGE - Enables easy discrimination of coating irregularity of coating film. Enables simple, quick and correct measurement.

CHOSEN-DRAWING: Dwg.1/4

TITLE-TERMS:

FILM THICK MEASURE METHOD INSPECT COATING IRREGULAR GOLF BALL. PROCESS RECEIVED IMAGE CONTAIN LIGHT DARK AREA PAIR CCD CAMERA

U	I	Document ID	Issue Date	Page	Current OR	Current XRef	Position
32		US 5509657 A	19960423	8			Golf putt
33		US 5351962 A	19941004	8			Automated
34		US 2001012389	20011119	1			Golf swin
35		JP 11057104 A	19990302	4			Inspectio
36		JP 10318714 A	19981204	8			Quality i
37		JP 09326034 A	19971216	6			Visual in
38		JP 09061364 A	19970307	6			Illuminat
39		US 5777244 A	19980707	9			Visual in
40		US 5703687 A	19971230	12			Film thic
41		JP 08309262 A	19961126	4			

FIG. 3A

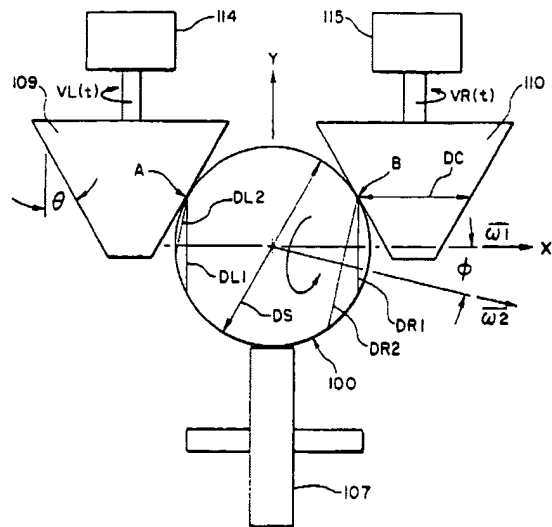


FIG. 3C

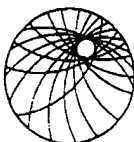
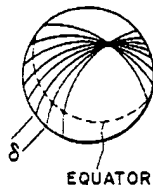


FIG. 3B



DOCUMENT-IDENTIFIER: US 5223793 A
TITLE: Apparatus for controlled rotation of a sphere or ball for inspecting or marking the surface with a predetermined pattern

BSPP:

In the manufacture of spherical components, such as, bearing balls used in the automotive, aerospace and aircraft industries, it is often necessary to inspect the condition and appearance of the ball for defects which would be detrimental to their performance. Electromagnetic, ultrasonic, optical, x-ray and other instrumental techniques are used for such inspection. It is generally desirable to inspect the entire surface using small sensors or probes with sensing areas very much smaller than the total ball surface. Inspection of complete surface requires manipulating the sensor around a stationary ball or manipulating the ball surface past a stationary sensor or probe or a combination of such motions. In any case, controlled motion is required in order to realize complete inspection coverage of the entire surface.

BSPP:

Similarly, in other manufacturing operations, controlled motion of a spherical surface for treatment, marking, or applications of other materials in pre-determined patterns is required. For such applications also, either an applicator or spherical object or both are required to be manipulated in order to complete the process.

BSPP:

The invention is particularly useful for methods and apparatuses for manipulating the spherical object with the sensor, probe, applicator or other treatment device in a fixed position such as to effect complete coverage of spherical surface in the desired pattern or patterns in a highly repeatable manner.

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Find what: cool	Apparatus
Area: All	Enhanced b:
Direction: Up	362/252 Hockey puck
Match word: Whole	359/629 Hockey puck
Look in: Documents	324/226 Apparatus
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U.S. Patent

Nov. 13, 2001

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US 6,315,684 B1

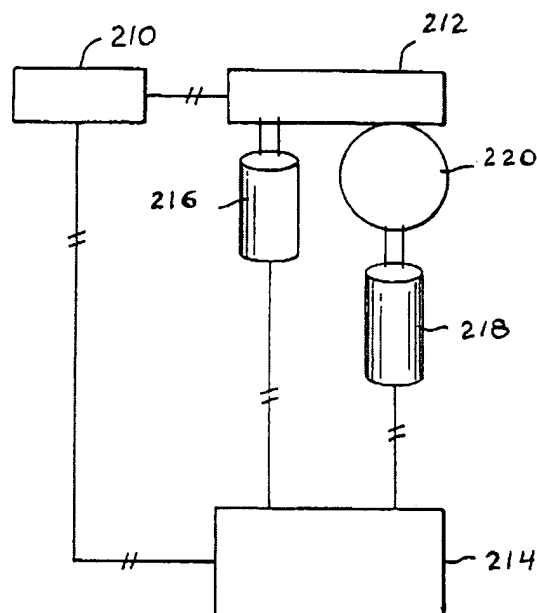


FIG. 13

DOCUMENT-IDENTIFIER: US 6315684 B1
TITLE: Golf ball with soft core

TTL:
Golf ball with soft core

ABPL:

Disclosed herein is a golf ball utilizing a core that comprises at least two particular types of polybutadiene. In one aspect, a combination of a polybutadiene obtained from a cobalt catalyst is used in conjunction with a polybutadiene obtained from a neodymium catalyst. Also disclosed are golf balls comprising particular cover compositions. In one aspect, a cover composition is disclosed that includes a sodium ionomer, a magnesium ionomer, and a zinc ionomer. The golf balls exhibit improved distance while providing soft sound and feel.

BSPR:

The present invention is directed to golf balls utilizing improved polybutadiene compositions for use in molded golf ball cores in conjunction with a particular type of cover composition. In one aspect, the improved polybutadiene compositions utilize one or more particular butadiene rubbers synthesized through the use of neodymium and cobalt-containing catalysts. The polybutadiene is preferably an ultra-high Mooney viscosity polybutadiene. In another aspect, the improved polybutadiene compositions utilize a particular solid butadiene rubber that exhibits an ultra-high Mooney viscosity and/or a high molecular weight and a low dispersity. The use of such butadiene rubber and/or blend of butadiene rubbers increases the resiliency of the ball. In addition, significantly improved mixing properties are achieved. In another aspect, the golf balls feature particular cover constructions that result in the balls exhibiting a soft feel and particular mechanical impedance.

BSPR:

Two of the principal properties involved in the performance of golf balls are resilience and hardness. Resilience is determined by the coefficient of restitution (referred to as "C.O.R."), also expressed as the constant "e", which is the ratio of the relative velocity of two elastic spheres after direct impact to that before impact, or more generally, the ratio of the outgoing velocity to incoming velocity of a rebounding ball. As a result, the coefficient of restitution (i.e. "e") can vary from zero to one, with one being equivalent to an elastic collision and zero being equivalent to an inelastic collision. Hardness is determined as the deformation (i.e. compression) of a ball under various load conditions applied across the ball's diameter. The lower the compression value, the harder the material.

	U	I	Document ID	Issue Date	Page	Current OR	Current XRef	
18	✓	✓	US 2001000553		21			Method fo
19	✓	✓	US 2001000371		8			COATING M
20	✓	✓	US 2001000371		8			MARKED GC
21	✓	✓	US 2001000273		28			Low spin
22	✓	✓	US 6319563 B1 20011120	19	427/511	427/261		Golf ball
23	✓	✓	US 6319149 B1 20011120	10	473/342	228/125		Golf club
24	✓	✓	US 6315915 B1 20011113	10	216/67	156/272.6		Treatment
25	✓	✓	US 6315684 B1 20011113	40	473/377	524/432		Golf ball
26	✓	✓	US 6315681 B1 20011113	38	473/373	473/337		Perimeter
27	✓	✓	US 6310163 B1 20011030	124	526/318.6	428/36.9		alpha-o